Rethinking the Residential Neighborhood

An Honors Thesis (LA 404)

by

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Abstract

This project designs a residential neighborhood in Northwest Indianapolis, Indiana. The neighborhood was designed using case studies and examples of landscape design that have been successful around the United States. From this research, a community was designed and laid out to promote a sense of community and of place. The following report details the research and the community. A more detailed project abstract and program follow in the report.

Author's Statement

This project was completed for a comprehensive project for Landscape Architecture with the College of Architecture and Planning at Ball State University. While the language of the project is meant to be understood by all, please note that some word usage is directly related to landscape architecture.

This project began in the fall of 2011 by choosing the project and doing the research. The research was all based on the premise of the project, which was designing a residential neighborhood that contained open space, sustainability aspects, dense urban housing, and a strong sense of place. The case studies provide examples of successful communities around the country.

The project is important because we are at a time of residential change in this country. For over a decade, families have been moving into sprawling suburbs that were houses after houses. These neighborhoods were built by developers that were interested in packing in as many houses as possible and making the most money off the land. These neighborhoods are on the outskirts of town and people must drive farther and farther to get to work. This increases carbon emissions and destroys the environments. This project is based on getting people back into the urban environment while having open space to play and relax in, as well as a sense of belonging to the land and the people around them. This connection is often missing in the lines of garages seen in many suburbs today.

In the spring of 2012, the design of this project took place. The design consisted of several concepts that were derived from the research, case studies, a program, and input from professors. From the concepts, a master plan was developed. This master plan was broken down into parts and explained more through the use of sections, perspectives, and more detailed drawings. The report that follows explains each point of the program and how each design element comes together to create a better community for the next generations.

Rethinking the Residential Neighborhood

LA 404
Comprehensive Project

Matt McDermott
Spring 2012

Rethinking the Residential Neighborhood

Designing for a more comprehensive use of residential developments

Matt McDermott
Landscape Architecture Comprehensive Project
Spring 2012
Carla Corbin, John Motloch, Les Smith

Abstract:

This project is a design for a residential neighborhood that breaks the tradition of the bedroom community. A neighborhood should be a place where people can enjoy where they live. People should live in a place that encourages them to stay and enjoy the amenities that are right next door. A neighborhood should be a complete place to live.

There are townhouses and condominiums in this development. Around these buildings is open space that includes a purpose for where it is located. These housing types maximize density while being able to include the other amenities that need to be in a complete neighborhood. The site includes a community center for events and to accommodate community bonding. Trails and paths around the site connect all the amenities to the housing and open space. Walking access around the community is vital to the success of the project.

The open space and wooded areas are just as important to this design as the houses. These natural areas make up half of the site. They provide places to experience nature as well as get out of the density of the development. The escape into nature is immediate instead of a fifteen to thirty minute drive. Besides the woods, this project also creates a small wetland area that can be explored by way of the boardwalk and pathway that circles the bay. Stormwater management is critical to any development that is in the urban environment. The increased runoff is controlled through swales and retention areas that are incorporated into the project. These are an educational area as well as beneficial to the surrounding environment and water quality.

The project is unlike other residential developments because of the unique sense of place. The site is an old rock quarry that was mined to create aggregate and rock for the roads around early Indianapolis. To bring out the history of the location, many different rock types and patterns make up the facades of the houses and amenities. The sense of the mining equipment is also brought out in the artwork and architecture throughout the neighborhood.

This project also includes public space and faculties. The park area is open and accessible by bike and car. This space has areas for passive recreation as well as docks around the bay to enjoy the water and the park. It also provides a location for community activities and gatherings. The multiuse trail around the site connects to a larger regional trail.

This entire community is developed using LEED Neighborhood Development standards. It is to be used as a reference for future development in and around the area. While the basics can be applied to any project, this neighborhood is unique and individual to the site. This project can also be an educational experience; from the habitat to the stormwater management practices.

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Introduction:

This project is a design for a residential neighborhood in Northeast Indianapolis. Currently, the developer is focused on creating a high density, upper class bedroom community. The developer, like many other developers, is creating the most profit from the land. This is not the best way to design for a full, complete experience of the site for the residents. This new design considers the residents' use of the site, what the site offers the residents, and what the site wants.

The residents of the site will be able to use and enjoy the land while being responsible. The high density is needed to cover the price of the land, but some of the land should remain natural to give the residents a place to utilize. Because of the high density, the land needs room to clean the increased stormwater and runoff. The needs of the residents are being addressed in cooperation with the needs of the environment. This will lessen the impact of the residents and the buildings on the site and the bay.

By incorporating the needs of all the parties involved, the design is able to create a more pleasurable place that respects the environment while offering a home to the new residents. The residents will be able to enjoy the community center, wetlands, park space, docks, overlooks, and all the design to offer instead of only a place to sleep, like many other developments currently in existence.

The design offers a full range of amenities and activities for the residents of the development as well as the community members. The site offers multiuse trails and a park area. Surrounding the bay are several overlooks and docks that allow for people to view the water and the habitat. The wetland will provide a unique habitat that will draw many varieties of wildlife to observe. The trail offers access all around the bay and the wooded areas. The trail will connect the site to the Monon trail and other parks in the community.

Literature Review

This project is focusing on creating a sense of place in suburban neighborhoods through sustainable efforts. In order to achieve this, the project looks at several sources of literature for its foundation. The elements of a successful community and important elements of sense of place will be combined to create a new neighborhood development in Indianapolis. The finished project will bring community together, have a sense of place unique to the site, and be designed in an environmentally conscience and holistic way.

Peter Newman and Isabella Jennings wrote *Cities as Sustainable Ecosystems*. This is a good reference material that is pertinent to this project. It looks at many levels of integrating systems to create a more sustainable area, region, and biosphere. For this project, it will focus on the specific area but all levels become relevant and necessary. The levels of biodiversity, sense of place, empowerment and participation, and partnerships are most appropriate to this project. Biodiversity is a key to any natural system working, so why shouldn't design mimic nature. The more diverse the area is, the more dynamic and helpful the system can be. Another key is keeping the existing or historical conditions in the area. This helps to create a sense of place through maintenance. This book will be very important as the project continues to develop. It is a great source of straight forward information that relates to most of the other books on the topic.

Another good resource is *Seeking Sustainability in an Age of Complexity* by Graham Harris. He talks about how complex the world has become, and how everything is interrelated. A change cannot be made to one system without affecting one, if not many, other systems. Sense of place is once again brought up as one system of complexity. He argues that the idea of sense of place is changing as the world becomes more global. People are striving to have a sense of place, so this project is working on that. If everyone has a place they can belong to, then they have a stronger sense of identity. He goes on to talk about geography, history, city planning, and culture all influence sense of place. This rich history of the area will show through

in the design of the neighborhood. The sense of place will be very unique to the community as well as fit into the sense of place of Indianapolis. This book is highly relevant and useful for this project.

The sustainable future is a question that has been looked into for many years. Sustainability is nothing new. Jean-Marc Zaninetti wrote *Sustainable Development in the USA*. Similar to Graham Harris, she explains the many factors that affect sustainable development. Items such as geography, population, economics, and urban sprawl all affect design. ~~This affects~~ can be negative if not properly thought out. This project will work to focus those items in a positive way using the research done by the author. This book mainly focuses on the economic approach, which will be helpful in some aspects. However, this project will not have a focus on economic sustainable development.

Another book focusing on the question of sustainable futures is *Constructing Sustainable Development* by Neil Harrison. He writes that sustainable development must be closely governed and accessed after each project. The pros and cons of each must be reviewed. Then, the next projects will look at the results and improve. This project is going to be looking at several case studies of entire neighborhood development as well as residential household development. It is an example of how the entire development will be designed on a holistic approach looking at the big and the small.

Sustainability can also be looked at by definitions. Nancy Carlisle wrote a report, Definition of a "Zero Net Energy" Community, defining the requirements for what a zero net energy community would need to meet. The most important item this project will take from the report is the 13 principles of sustainability, as seen in Appendix C. These principles will help influence the design. Having all the principles in the community does not make it a zero net energy community but it does help to push forward the idea. This project can become a standard for new community development around Indiana and the Midwest.

A perfect example of site scale sustainable stormwater management is the 2009 ASLA award winner Marcus de la fleur. Adam Arvidson wrote an article on the house, Modeling Green, in Landscape Architecture Magazine. This house in a suburb of Chicago follows seven simple steps to deal with stormwater on the property, also seen in Appendix C. These examples will fit into the design and be expanded to the community scale. Each property doing a small part really will help the whole community. With the project being on waterfront, it is vital to deal with the stormwater and help to clean the water.

Relationships are important to everyone, and not just social relationships. People want to be outside. The younger generation is taking more vacation time and spending more time in nature and with their families. Many articles are being written about this subject, such as Understanding the "Y" Generation by Lee Reinsch. Why not have those natural spaces within walking distance from your home? In this new community, neighbors will be able to spend time in one of the parks without getting in a car. Think of having a picnic at your very own park. The natural environment around people is critical to enjoying life. Having a strong sense of place directly relates to quality of life. The idea that people relate to what is around them will have a huge impact, some of which is very hard to measure. Suburbs are full of people of all kinds of ages and family statuses. The surrounding environment should fit all those categories. The environment must be as diverse as the surroundings. This book also looks at the social relationships that take place in the suburbs. This is another critical aspect that must be taken into account in the design. This will be another good source to continue to reference as the project evolves.

Almost every source brings up sense of place, which clearly states its importance in design and overall planning. Sense of place seems to be overlooked in the cookie cutter suburbs that exist currently. Over time, this will change as people want more and more out of life and their surroundings. The immediate surroundings will have the greatest impact on quality of life.

Precedent Study: High Point, Seattle, WA

Figure 1

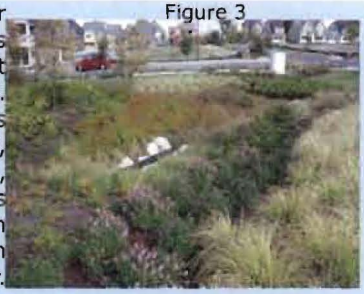
High Point is a 120 acre community in Seattle, WA, that was designed for meeting neighbors and creating a sustainable lifestyle. The design for this area included 1600 housing units as well as incorporating views, open spaces and parks, street trees, and easy ways to get around the neighborhood. Multiple types of housing allow a wider range of population to live in this area and diversity its economic and demographic residents. All of these aspects helped to make the area successful. These design elements can all be utilized here at the site in Indianapolis.

Figure 2

The community gardens are great success stories as well. Many of the residents take part in the gardens, and are a wonderful way to meet their neighbors and make new friends.

Stormwater management is another significant design element. Between the porous sidewalks, swales, and a retention pond, this project was developed with an importance put on cleaning rain water.

Figure 3



This master plan of High Point shows how the parks and open space were incorporated into the design. Views were distributed between homes and open space. It was important that the open space was just as stunning as the homes. The open space also allows residents to get outside their homes to enjoy nature and meet their neighbors. These open spaces are continuous and allow of residents to travel throughout the site without having to be next to the roads to do so. This ease of access allows pedestrians to enjoy the site without having to worry about traffic right beside them. The car becomes secondary once you are in this site. A design element not often considered in today's traditional developments.

Figure 4

The views from West Seattle into the city are stunning. It was important in the design that everyone was able to witness these views and have a place to relax and enjoy their time while doing so. The open space is designed as to point to some of the best views out of the site.

Figure 5

Precedent Study: Prairie Crossing, Grayslake, IL

Prairie Crossing in Grayslake, IL is 677 acres of transit oriented development, which mean the community is located where it is because two train routes run by the site and have a stop for commuters to ride into Chicago. This community was designed using preservation as the main tool. Over sixty percent of this site is preserved and will never be built upon. The community is designed as a whole system. It includes a town square that has many businesses in it that necessary to everyday life. The community also has its own school and organic farm. The farm sells its produce in the local farmers market. A multiuse trail connects the housing developments and the open spaces. This community is much larger than this project but still has several good ideas and practices that apply to any community that is designed with the land in mind.

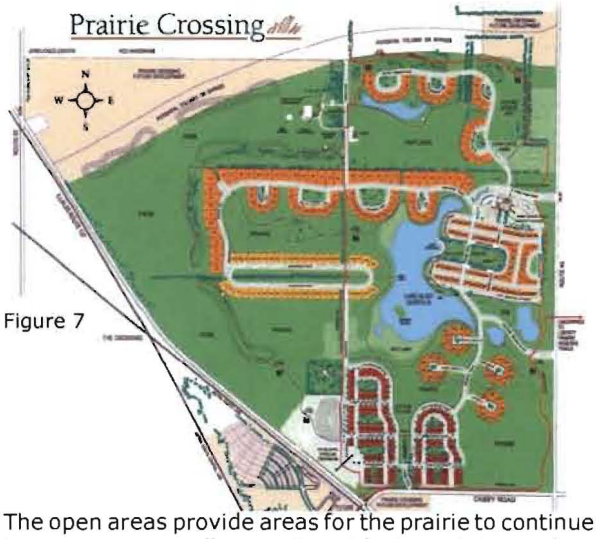


Figure 7

The open areas provide areas for the prairie to continue to prosper as well as get residents out to explore the natural environment and wildlife that thrives in the area. Other open areas allow for ponds that contain more wildlife as well as a place the rainwater runoff to be stored and reused on site. The organic farm harnesses rainwater to water the produce.

This community is based mostly upon upper class single family housing but has just recently opened some condos. These condos offer higher density development while impacting less land. They also build on the idea of mixed use development. The first floor of these condos offers space for more business to come into the community.

Figure 6

This community parks and open space incorporates smaller areas of open space for passive recreation close to home. These spaces are centered on pockets of housing. The larger spaces are used for more active recreation and are located between the housing so that there are still eyes on the space, allowing for security and safety. The other spaces are preserved for wildlife and natural habitat. These areas remain open for residents to explore on the multiuse trail.

Case Study: Celebration, FL

Figure 8

Celebration, FL is a community that was laid out by architects and city and social planners. These people came together, under The Walt Disney World Company, to master plan a whole new community. They based their design on five cornerstones.

Sense of Community

Between the community gatherings, seeing your neighbors walk by, or meeting residents in one of the many public spaces, the sense of community here is quite strong. From the wide sidewalks to the town square, residents are out and about living life. This is a rather large community so there are many social groups and community action committees that bring the residents together. This strong bond promotes the community as a place to live. A wide range of housing types also helps to diversify the community. Many social groups and family situations can live in the same place and all feel like they belong.

Sense of Place

The architectural detail in this community makes this place unique. The place making techniques used invite people in. For example, in the town square, there is outdoor seating with awnings provide a wonderful place to sit, eat, and socialize. The residential units are similar in each area of the community, giving an identity to each new part of development.

Focus on Technology, Health, and Education

Celebration is a community that is working for its residents. Technology helps to make communication easier throughout the community. For example, each resident has a email address and receives news and updates about the community. Health is important as well. Parks, twenty-six miles of trails, and many amenities are available to residents to get out and stay active. There is also a school in the community for the younger generation. Having a school that is local and can be walked to is very attractive to many people.


Figure 9

Stormwater Management Practices:

Figure 10

Rain gardens and bioswales are engineered areas that retain and filter water while allowing it to recharge the groundwater rather than run off into a storm drain. These features are attractive because they add interest to the landscape and reduce the impact of runoff due to increased impervious surfaces. These features are beneficial to the individual resident as well as the community. These areas often connected to one another for added filtering and retention time.

Green roofs are beneficial because they increase the lifespan of the roof of a building and greatly reduce the heating and cooling costs. By reducing energy usage needed to heat or cool a building, the community benefits from reduced costs and knowing they are reducing emissions.

Figure 11

Pervious surfaces are another way to reduce stormwater runoff. These surfaces allow for water to pass through them to recharge ground water. The increased runoff produced by impervious surfaces can cause erosion and unsightly grooves in the land that act as channels to increase the speed of runoff. This increased speed allows for more erosion and increases the pollutants in the water. By not allowing the stormwater to run into the bay directly, the water is naturally filtered and much cleaner. Driveways, roads, and sidewalks can use pervious applications. These surfaces can also be aesthetic, as seen in the picture above.

Figure 12

Rain barrels are another useful tool to collect stormwater. The barrels are generally put under the downspout for the gutter system for buildings. The additional benefit to using rain barrels is that the water can be used for irrigation purposes. The water is not directly sent back into the ground. Water from the barrels is used to irrigate the family garden or the landscape. A larger collection system could be used to irrigate larger landscapes or a community garden.

Figure 13

The Site:


Figure 14

The site is located at 78th and Keystone Ave. in Indianapolis. It is part of the Nora Northside Community. Nora is located about a five minute drive northwest of this site. The Nora Northside Community is a rather affluent community with about twenty-eight thousand residents spanning sixty neighborhoods. The site is about fifty-five acres in size and contains twenty-eight buildable acres. This site is one of the few undeveloped areas in the community.

Renaissance Bay is the current development on site. Sun Shiel Properties is developing the site to be Carolinian themed condominiums. The project started in 2006 and came to a halt in 2008 due to the economy. In those two years, the company cleared the entire site, laid out a road, built the main office building, and four buildings. Of the four buildings, there are 18 units in each, and only a handful of those units are sold. The site is basically empty. The developer also put in several retaining walls in order to maximize development. The current plan for build out is thirty four buildings that will include over 300 units. These units are to be sold for over 300,000 dollars each. This high class living came at a time when people were cutting back and consolidating. Since 2008, the development has stopped and the site has fallen into disrepair and the natural landscape is starting to reclaim itself.

There are many problems with the site and current development. First is the sense of place the developer is trying to convey. The Carolinian theme does not fit into the Indianapolis community or the site itself. It is a forced sense of place and stands out against the single family residential to the north. The second problem is that the size of the buildings to not relate to its context. Duplexes and single family homes surround the site. The buildings are massively out of scale compared to anything around the site. Because of the scale, these condos are overpriced for the area and are a large part of the failure of the developer. These condos are for sale at more than twice the price of the surrounding homes. The other major problem is there are no connections between the site and the surrounding community. The developer was focused on how many housing units could fit into the site instead of making it a place for residents and community members to come to and enjoy. The only way to get to the site is by car.

Figure 15

Figure 16

The Program

1. Goal: Design a residential neighborhood
   - i. Provide multiple types of homes
     - oTownhomes, manors, and condos
     - o28 buildable acres
     - oRetired couples, Families, Couples, Singles
     - oOpen recreation areas
   - ii. Residential amenities
     - oNeighborhood center for community
     - oPrivate pavilion/overlook
     - oAccess to bay
2. Goal: Protect existing vegetation and habitat
   - i. Protect and improve existing vegetation
     - oDo not build in existing vegetation
     - oExtend vegetation into property
     - oLayout multiuse trail to connect site
       - Throughout site, woods
       - Bridge over bay entrance
   - ii. Create wetland habitat
     - oCreate a wetlands area near water
     - oHave overlook for viewing, education
3. Goal: Create a sense of place
   - i. Quarry History
     - oUse of stone throughout site
     - oUse of metal, reminiscent of equipment
   - ii. Public areas to include landmark features
     - oDesign elements from the history of the site
     - oCommunity structures show geology, history
4. Goal: Create a sense of community
   - i. Include the Nora North side Community(NCC)
     - oPromote community use of amenities
     - oBiking/walking trails in the south and east
       - Connect to Monon and bike lanes
   - ii. Encourage public to use bay and park
     - oSee 4.i
     - oInclude a public area to be used as a market/ open recreation
   - iii. Must be open, inviting, and accessible
     - oGrand entrance with bus stop
     - oBike trails
     - oComplete streets
       - walk-able, bike-able, drive-able
5. Goal: Follow LEED ND Standards
   - i. LEED ND standards
     - oBecome an example for the NCC community
     - oAchieve enough credits for Gold certification
     - oThis site will become the example for sustainable design for NCC
   - ii. Educate about what is being done
     - oEducational signage
     - oWetland/woods/river area becomes a place for field trips, education opportunity

Inventory: Regional Scale

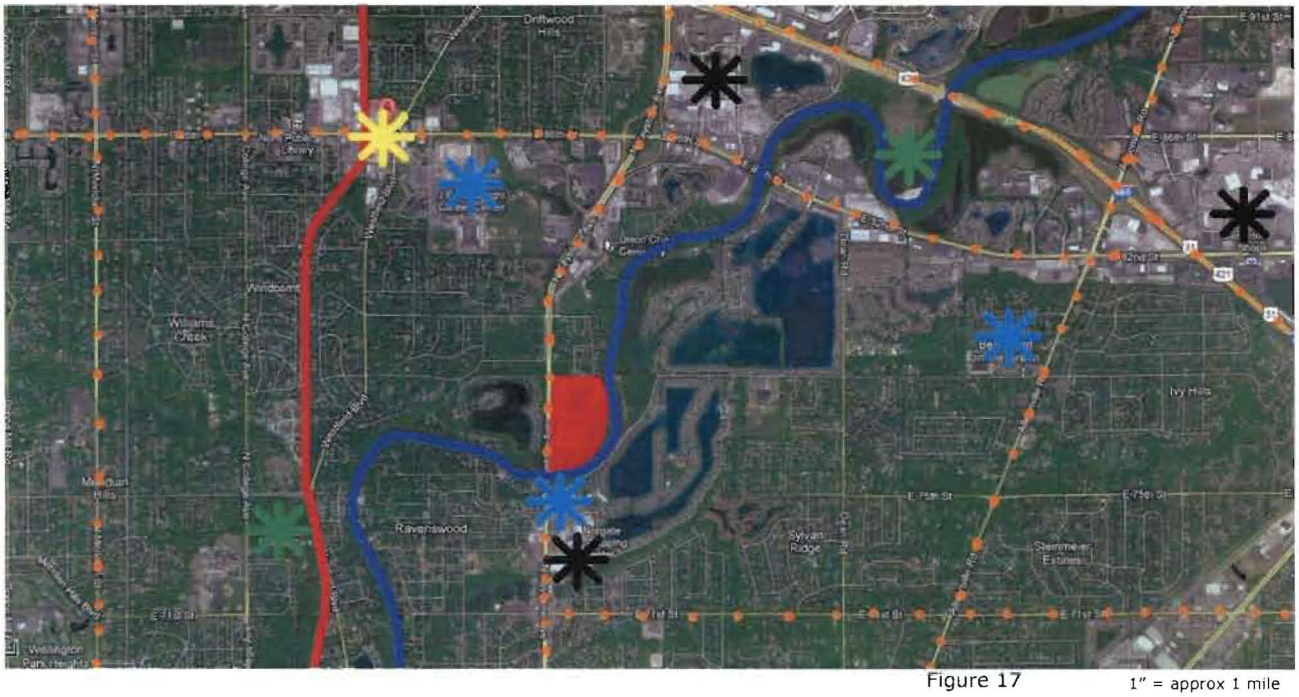


Figure 17 1" = approx 1 mile

- Project Site
- Monon Trail
- White River
- Parks
- Nora
- Major Roads
- Malls
- Schools

This is an affluent area of Indianapolis that is mostly residential housing. Many are townhouses and duplexes. While a bus route does go by the site, it does not have a stop. The site is surrounded by the White River on the East and South, and is quite unique because it has a bay that is connected to the river. This does mean that some of the site is subject to flooding. The site is located close to many amenities, including being across the river from a charter school and less than two miles from Nora High School.

Inventory: Site Scale

Keystone Ave.

Views

1" = 500'

Figure 18

Entrance/ Exit

Sloped areas 2:1 general

Existing Buildings

Point of Interest

Wooded

Future Trail

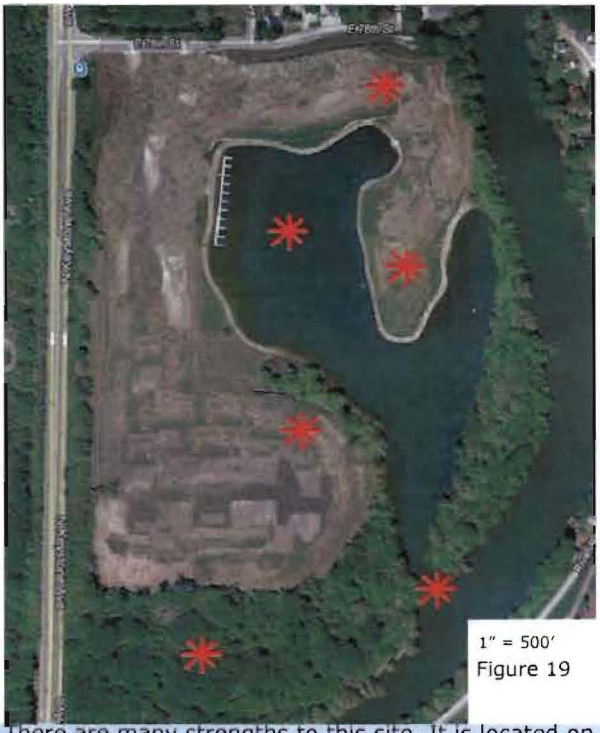
The project is located at 78th and Keystone Ave. in Indianapolis, IN. The current development has stopped construction since 2008. They were able to complete four buildings, which hold 18 units each. There are not many units that have sold. The rest of the site has been cleared and prepared for development. The roads have been paved and include on street parking as well as entrances to the future buildings. The medians and the landscape are beginning to become unruly and out of control.

The woods on the southern and eastern portions of the site are in good condition and should be preserved. The landscape in the ditch that separates the road from the development is in poor condition. The retaining walls put up around the site are to maximize development and takes away from the natural beauty of the landscape.

The flat portion of that site that will be developed is twenty feet above the water level. This change in elevation creates slopes that must be carefully dealt with. It also creates great views of the site. From the three points on the picture to the left, the entire site can be seen. These points are places of interest in the final design.

Analysis:

Strengths



1" = 500'
Figure 19

There are many strengths to this site. It is located on the White River and has a private bay. It is important to reference and celebrate the water. The topography of the site lends itself to great views. These viewpoints are used to place important buildings and spaces on the site. The landings between elevation changes should be taken advantage of as well to create definition of spaces. The woods offer a great place to escape the built environment. A multiuse trail was put in to take advantage of this natural environment. The trail connects to the Monon as well as other parks.

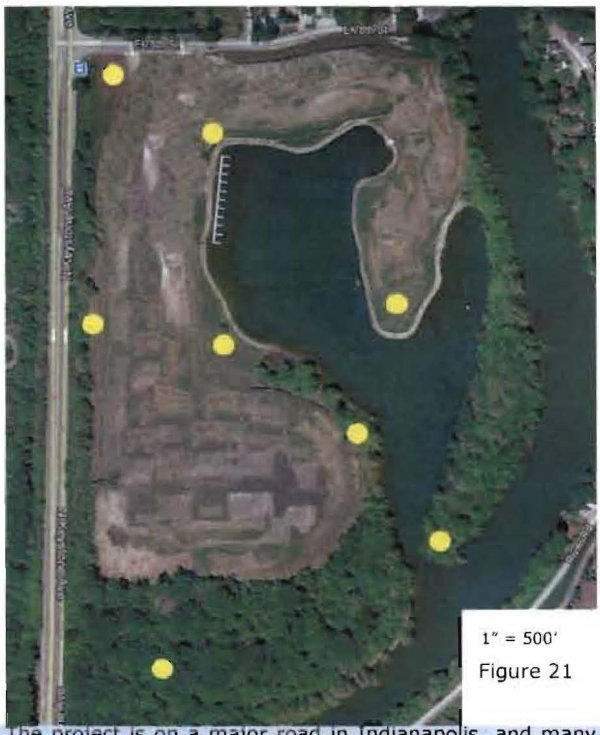
Weaknesses

1" = 500'
Figure 20

The first weakness is Keystone Ave. This is a very busy road that produces a lot of noise and pollution. The road needs to be blocked off to lessen the noise issue, yet the site needs to be visible to those passing by. The majority of the site is quite flat and uninviting. This dullness is mostly from the lack of buildings or natural space. Interest is brought on site by the sense of place that is designed. The retaining walls that were put up are utilitarian and not visually pleasing. Many of these are removed to make the site more natural and inviting. Those that had to remain are made more interesting by placing a new façade or by incorporating them into the landscape.

Analysis:

Opportunities



1" = 500'

Figure 21

The project is on a major road in Indianapolis, and many people travel by the site each day. A prominent entry place creates interest in the site and the project. A large landmark piece should be visible to the public from Keystone Ave. The views in and around the site are used as gathering places. The low flat land near the bay suggests that a wetland would be well suited here. The high points will be able to overlook this low area and create interest. The wooded areas are well suited to trails and overlooks and gathering areas. It is very unique that this site had a private bay with access to the White River. This must be played upon and used as an interest piece to draw the public.

Threats

1" = 500'

Figure 22

One of the threats of the site is the extreme low density of housing to the north. A screen is needed to separate the two areas so that the density can change. A screen is also needed to block to noise from Keystone Ave. A vegetative area with swales helps to capture some noise. The focus on the elevation change makes the project more interesting and visually appealing. Flooding is a concern as well. Since the bay is directly connected to the river, when the river floods, the bay floods. This is counteracted by the wetlands area and building only above the floodplain.

Concepts: Everyone Together

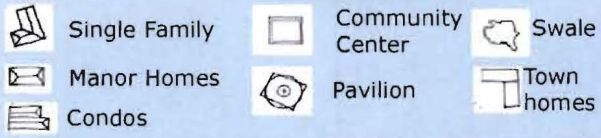
The first concept mixed housing types and open space. This concept allowed is more similar to the layout of Celebration, Fl. The single family housing had the most land and the most prominent views. The views were given to the single family homes because those properties would bring in the most money to help offset the lower cost of the other properties. The manor homes stepped up the density and help to merge the single family with the higher density of condominiums. The manor homes are similar to townhouses but appear as one large single family home. The condos are along the long stretch and all face the bay. The condo units are more suited for couples and singles that want a great view but do not necessarily need a yard. The townhouses are located at the bottom of the site to provide more area for recreation rather than views of the bay. These homes have more open space and are more suited for families with children.

The swales are located in areas that receive most of the water. The swale to the northeast of the site is already in place. The other two swales add interest around the condos. These swales are incorporated into the ditch that separates Keystone Ave. from the site. These swales are heavily vegetated to buffer the noise but allow views into the site. The swales are located at the perimeter of the site because the built areas are the high points of the site. Water in the interior of the site runs directly into the bay. Chances to filter and clean that water will be discussed later on.

Constant in all three concepts is the trails in the wooded areas of the site. The wood area is unfit for building because the terrain drops off quickly and becomes a flood plain for the river. The trails lead to picnic areas and private docks for residents to relax by the water and enjoy nature. These docks

1" = 500'

Figure 23



are all over the site for plenty of residents and community members to interact with the water. The community center is located at the entrance of the site to draw the most people. It is also located near the highest density of the neighborhood.

Concepts: To Each Its Own

1" = 500'
Figure 24

Condos Single Family Townhouses

In this concept, the housing types were more split up. The manor homes were removed and more townhouses were put in. The single family housing is on the northern part of the site in order to still receive some of the best views while eliminating the traffic issues presented in the first concept. This gives the single family homes a drive that is more private and similar to the housing to the north of the site. The townhouses are moved up in the site to give more views to the townhouses. Every four townhouses are given an extra room for recreation. This creates open space that is close to home and within sight. These townhouses are more directed at families with children.

The swales are moved down to separate the townhouses from the condos. This created the opportunity to create a larger swale that creates more draw. The larger swale has more interest and draws more wildlife. This swale becomes a focal point between housing types.

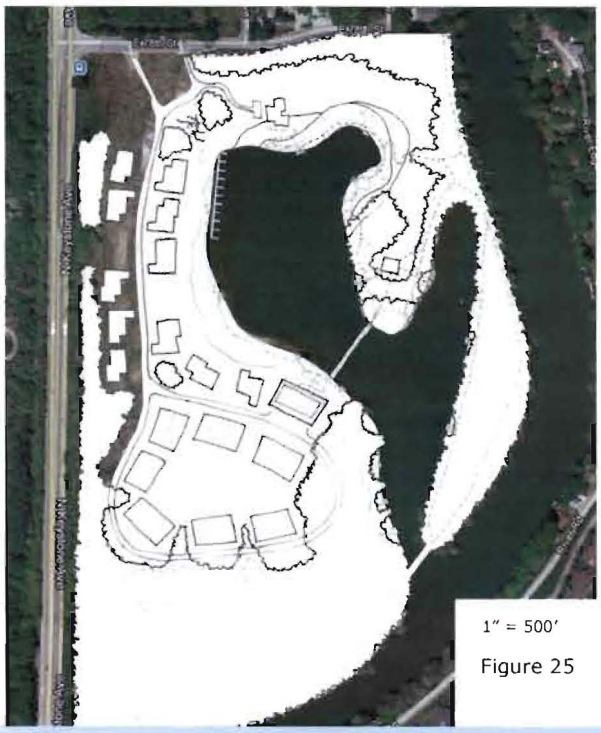
The community center is moved down with the move in density. This provides the most people with close access to the center. It also creates more of an identity to the center and makes it more suited for the residents in this neighborhood. It remains a draw for community members for access to the bay. The center has canoe and kayak rentals so all residents and community members have access to enjoy the bay. The center is also the hub for educational opportunities. It overlooks the wetland, providing a scenic view of the bay and the wildlife.

The trail continues to be in the wooded area to serve residents. The trails will eventually connect to a greenway trail that is planned from the Monon trail up to Town Run Trail Park. A bridge connects the two wooded areas of the site and creates an entrance to the site from the White River. This bridge is another focal point for the neighborhood.

Concepts: Largely Open Space

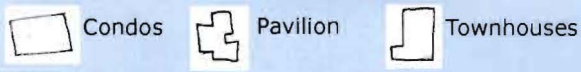
The third concept removes another housing type, single family. Single family housing is too low dense for the area. Except for the homes to the north, the surrounding developments are duplexes and townhouses. The single family housing is removed to make a park space. The housing units lost, which were only nine homes, is made up by increasing the density of condos. In order to maximize housing units, the open space is consolidated to the northern part of the site. The townhouses and condos fill the rest of the site. This concept includes the most housing units.

The park space is an open space for passive recreation. The main building is used as a multipurpose space that can be used for community events and farmers markets. This open space is well suited for community gatherings because of its size and ease of access. The park includes several areas along the bay for visitors to sit and relax. The housing units are similar to concept two but, the density is increased. With more people living here, the more neighborhood functions can happen. The community center is also in the same place to facilitate the increased population.



1" = 500'

Figure 25



The most prominent feature of this concept is the pedestrian bridge connecting the community center to the park space. This bridge completes the circuit around the site so people walking can make a full circle. The bridge is high enough that small boats can still get into the bay. The bridge includes historical markers informing visitors about the history of the quarry that was once here.

The entrance to the park is left more open to make the park space more inviting. A good planting plan will draw interest to the site as well as welcome the community to the site. A large art piece also helps to draw people to the site.

Further Ideas

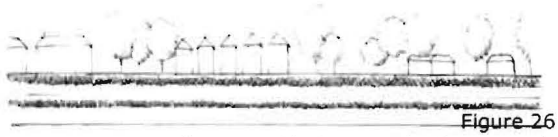


Figure 26

The section cuts above and below are looking at what the density of the site looks like from North to South. The top is looking at concepts one and two while the bottom looks at concept three. The density increases if the park space is moved but the amount of open space greatly increases. These sections are also looking at ways to treat the slope. The top is a tiered approach that has swales on tiers between the trails people use to travel the site. This gets the people right in the middle of cleaner water. The bottom section focuses on catching the water in the wetland before it gets to the bay. The slopes would remain but include different stabilizing systems. Rocks and grasses would line the banks of the bay and incorporate the trails naturally. The bottom section is more natural and is used throughout the site.

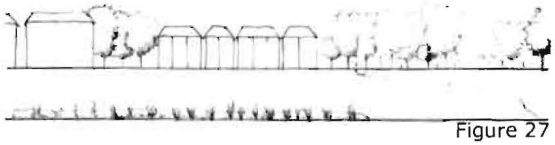


Figure 27

Figure 28

The above sections are again looking at the northern part of the site. The option to on the right is built up with housing and a more engineered system to deal with the slope fits. The second option is to design an open space that can be used by the community.

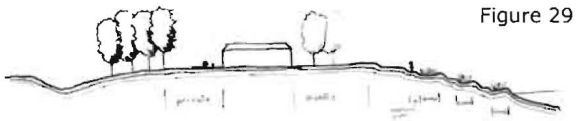


Figure 29

These sections are looking at private versus public space along the site. If the housing units are on both sides of the road, there is not much open public space. However, the slopes continue to be open space in ether situation. The other option is to have housing between the ditch and the street on site. This option opens up more space for passive recreation.

It also allows public space that can overlook the bay. The options of how to treat the slopes are here again. A tiered system is engineered and really does not fit with the master plan of the neighborhood. A more natural approach is taken where the trail and the wetland fits into the existing conditions.

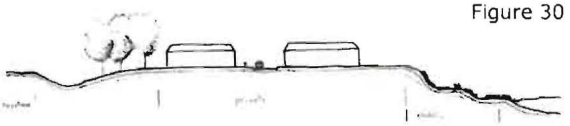


Figure 30

Figure 31

This option is natural and includes many trees, shrubs, grasses, and rocks. The entire northern part of the site is left natural to draw more people and more wildlife into the area. This natural solution also gives a local park where there was none before.

Master Plan:

North Side of Design
Scale 1" = 200' approx

0 25 50 100

The following pages offer a description of each area of the site. A small legend will be on the page to locate the area each page is describing.

South Side of Design
Scale 1" = 200' approx

0 25 50 100

Figure 32

Townhomes and Condos

The townhomes here are great places for families and younger couples to call home. These fifty units come in various sizes and price ranges to accommodate many different groups of people. The townhomes help to unite this new community with the surrounding neighborhoods by offering a similar housing type.

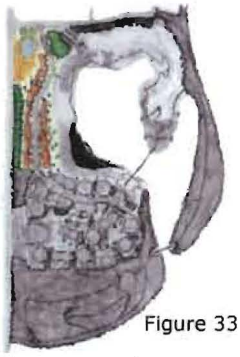


Figure 33

The houses are blocked from Keystone Ave. by a grove of trees that provides a buffer from the noise. The streets have sidewalks making is easy for all residents to get around the site, especially to the community center. The houses are offset from each other to provide the most access to the bay as possible. The units on the east side of the road all have great views of the bay and across to the park.

Between each set of townhomes are vegetated swales that capture and filter the rainwater before allowing it to continue flowing into the ditch and eventually to the White River.

Figure 34

The middle of the new community is populated with high density condos. These houses are come in sizes for any living situation. There are two hundred and fifty houses in this area. There are smaller units for singles to live as well as larger units for families and empty nesters. These houses have outside patios and decks but not their own private yard. The houses here surround larger green, open areas for recreation. The groups of condos each surround a lawn area for residents to relax and enjoy the outdoors. While some houses look out over the bay, others look out over the lawn areas and the southern pond.

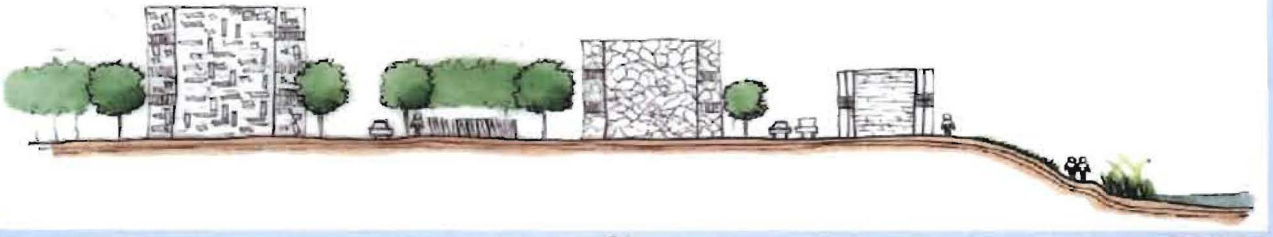


Figure 35

Place Making and History

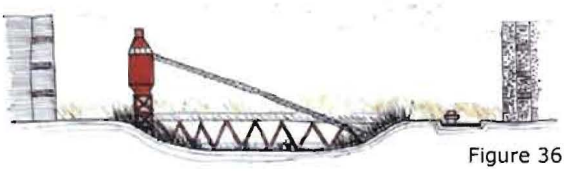


Figure 36

The drawing above is one of the landmark features of the site. This installation of a quarry elevator and storage been are reminiscent of what would have been on the site 100 years ago. The reason the bay is there is because the site was once a mine for stone used in some of the original roads of Indianapolis. Once the quarry had reached its end, it was opened up to the White River to flood the hole that was left. This refurbished storage been can be seen from Keystone Ave. to peak interest in those that drive by. It is another example of the place making used to create a strong sense of place throughout the community.

Other elements of the old quarry show up as well. The two pedestrian bridges in the community are made of steel and designed after the quarry conveyors that were once on site moving aggregate around. Along the bridge are plaques that explain the history of the quarry and the significance of the site to the city of Indianapolis. Much of the north side of Indianapolis has bays and ponds that were once quarries used to develop and facilitate the growth of the city.

The bridge here is an important connection between the sides of the community as well. It links the public area of the park to the residential side. The bridge connects the higher elevation of the built environment to the lower, more natural side of the community.

Figure 37

The condos vary in height so more houses get a view of the water. Just as the townhomes are offset to allow more views in, the condos are the same way. The houses also have views into the open areas from the space between the interior buildings. The façade of each building is unique as well, examples shown to the right. The unique façade of each condo and townhome creates a sense of place for each resident of that building. Each building is different so the residents feel a connection to their home as well as to a larger community.

Figure 38

Figure 39

Figure 40

Natural Areas and Park Space

The Southern part of the design had to remain as a natural environment because is a much lower elevation and thus part of the flood plain of the White River. That does not mean that is cannot be utilized for this natural beauty as well as an area for recreation on the site.

Figure 41

The vegetation here is quite old and well established. Mostly made up of oak and maple trees, this area has many tall canopy trees that offer shade for residents and community members alike walk around the area and enjoy the natural environment. As well as being a buffer for noise into the community, it is an escape from the built environment and high density housing. When walking in this area, the canopy practically covers all the condos, leaving the user, the vegetation, and the water.

The main path by the water connects under Keystone Ave. to what will be a larger scale greenway system that will connect to the Monon Trail. The trail leads up to the park and a few small docks that are on the waterside for users to come, sit, and enjoy the water and the habitat that live close by.

The park creates the perfect opposite to the built area of the rest of the site. This large park system is built to encourage the surrounding residents to come to enjoy the site. One of the main reasons, for a larger park here rather than several smaller green areas, is to invite the community to the site. The nearest park to this neighborhood is two miles away. Part of the idea of this design was to get people out of their cars and using alternative ways to get around, such as biking and walking. Bike lanes across Keystone Ave. allow for bikers to ride up to the near stoplight to the north, cross the street, and the use bike lanes and sidewalks to connect to the Monon Trail.

Figure 42

The park is for open recreation. The large field on the North side is large enough for active recreation and is left open for that reason. The rest of the park is not wide enough for large active recreation activities but still allows for users to find shade or play less active activities.

Getting Around

Since the bay is connected to the bay, a detail that is quite unique, is should be made an important area on site. The multiuse trail that connects the wooded area to the park space must bridge over the opening. This bridge is much like the bridge that connects the neighborhood center to the park. What separates this from the other is the large letters that make the greenway. It also allows larger boats to come into the bay and dock at the neighborhood center to invite even more people to the community. This is a rest stop for boaters along the White River.

Figure 43

Figure 44

A sign on the baordwalk near where the wetland meets the open water.

The section perspective below shows the elevation change from the townhomes to the water. There is a sixteen foot drop here and around most of the site. The slope is dealt with by planting prairie grasses along some of the slope and placing large rock aggregate around the others. The large rock aggregate is another aspect of remembering the history of the site and is meant to be reminiscent of what was left on site once the quarry ended its operations here. The prairie grasses are a bank stabilization method as well as a way to green the slope. The tall grasses are also in place to provide habitat for many small birds and amphibians to live by the water.

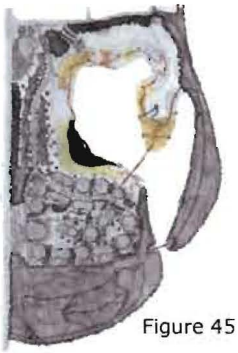


Figure 45

All around the bay is a pathway and boardwalk that connects the users to any park of the site. Along with pathway are several small overlooks to sit on a bench and enjoy the surrounding environment and bay. They differ in elevation and surroundings to give each one a unique perspective of the area.Informational signage all around this pathway show what grows and lives here.

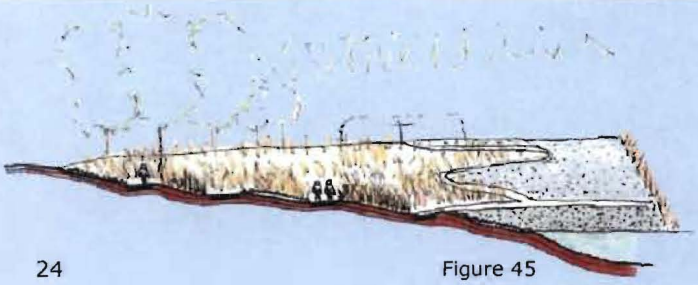


Figure 45

Neighborhood Center and Wetland

The neighborhood center is located in a prime location on the waterfront that overlooks the bay and the park across the bay. The center offers many activities for residents to get involved in, helping to create a sense of community and belonging. There are craft class, continuing education classes, sustainability classes, and many more. The center has a daycare for younger families so their kids are always close to home. Walking outside the center, users have direct access to the pedestrian bridge that connects the two sides of the site or walk down to the water to use a canoe, kayak or continue walking around the many trails around the site.

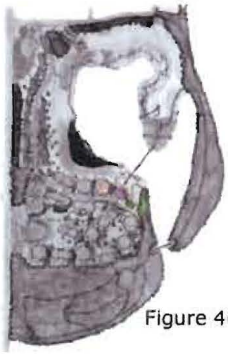


Figure 46

Outside the center is also a place for the residents to come together and grow a garden. Since residents to not have their own backyard to grow vegetables and flowers, they have one central place to do all of that. Tools are stored in a shed and shared by all the residents. The garden is open to all and another way to help build community.

The wetland is located in a low laying area next to the bay. The topography map can be seen in the appendix and shows this area. It is no more than two feet above the level of the water and is often very wet. This is a great place for habitat creation. Another perk is that it is located very close to the neighborhood center. This provides an excellent overlook for the wetlands. The boardwalk around the bay goes through the wetland allowing for opportunities to see wildlife and many plant species. The boardwalk has informational signage about the plants growing there as well as details about how the wetlands is cleaning and filtering the water of toxins and chemicals.

Figure 47

The wetland is home to many species of wildlife.
Some that live here are:

- Red-winged Blackbirds
- Piping Plover
- Geese
- Ducks
- Beavers
- Rabbits
- Frogs
- Dragonflies
- Various Insects

Some plants that will grow here are:

- Cattails
- Bulrushes
- Pondweed
- Lilies
- Sedges
- Pitcher plant
- Sphagnum moss
- Willows

Stormwater and Swales

One of the most visible ways of bringing sustainability into the design is with the stormwater management system. This system attempts to collect all the stormwater and runoff from the community and filter it at least once before it goes into the White River. By cleansing the water, the bay, if not the part of White River, will become a cleaner, healthier body of water.

Figure 48

The system starts at the small swales located by the housing. These swales are vegetated with grasses and plants that like wet-feet. Wet-feet means plants that are ok with having the soil around them saturated with water constantly. These plants collect and use some of the rainwater. The depression created by the swale slows water down and allows it to soak into the ground. This allows the water to infiltrate back into the ground water and is filtered by the soil.

Once the swale is full, the water continues into the ditch that separates the neighborhood from Keystone Ave. This ditch is an existing condition and is being integrated into the new system. Along with the trees that will soak up and use some of the rain water, depressions within the ditch again slow water and allow it to infiltrate. The excess water is channeled into one of the retention ponds on the west side of the site. These ponds are capable of holding many hundreds of gallons of water and hold it on site. The vegetation along the sides of these ponds, as well as the vegetation in the ponds, use the water and clean the water. This leaves a clean body of water and surrounding vegetation that creates a destination and natural environment that can be enjoyed by the residents. Any stormwater or runoff that these ponds cannot hold runs into the White River.

Figure 49

This system is used in another way on the park side of the design. In order for the swale to not interrupt the flow of the park, the swale here is less present and only grassed. This creates a small between the active recreation area and the rest of the park. This grassed swale is moved and is not meant to hold water, but rather direct its flow to the small retention pond on the Northeast corner of the site.

A less obvious filtering system on site is the prairie grasses on the slope by the bay. By having a strong root system from the grasses, much of the water is used up by the plants while preventing erosion of the bank. The water is forced into the ground and is filtered by the soil. Any extra water that is pulled in continues its flow underground slowly, rather than pulling sediment into the bay and diluting the water.

Swales

The swales between the townhouses and condos are vegetated with several species of grasses. Grasses develop a strong root system to prevent erosion and provide ways for stormwater to infiltrate the ground. These grasses vary in height and create a perceived barrier between housing units. This helps to separate each building but also have a reason to develop a relationship between neighbors by caring for and improving the swale character.

These small depressions in the land are vital for taking care of the stormwater and improving the quality of the water. These help to divert water away from the housing units and decreasing the chance for water to find its way into foundations and causing trouble that way.

The chart below shows some of the grasses that are used in the swales. The height of the grasses differs to create more of an interest. Some grasses flower and can be very visually interesting.

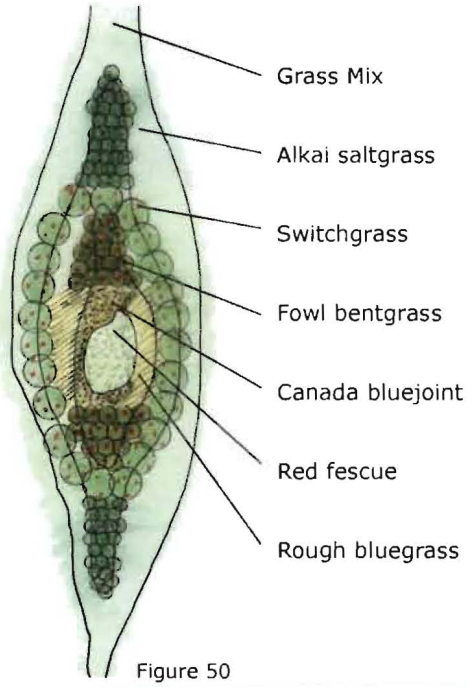


Figure 50

Common Name	Scientific Name	Height
Alkai saltgrass	Puccinellia distans	4 to 16"
Fowl bluegrass	Poa palustris	24"
Canada bluejoint	Calamagrostis canadensis	24 to 48"
Creeping bentgrass	Agrostis palustris	2 to 6"
Red Fescue	Festuca rubra	2 to 6"
Retop	Agrostis gigentea	24 to 36"
Rough bluegrass	Poa trivialis	2 to 6"
Switchgrass	Panicum virgatum	4 to 6'
Wildrye	Elymus rigarius	2 to 8'

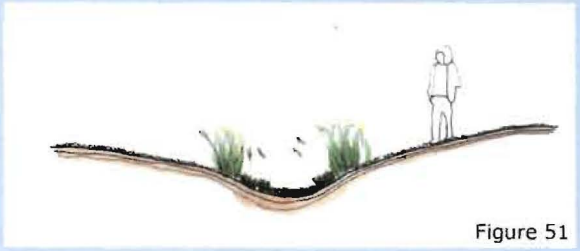


Figure 51

LEED -ND

This design is intended to improve the quality of the area and the land as well as be an example to the surrounding community. A basis for doing that is using the LEED-ND checklist and requirements. ND stands for Neighborhood Development. The checklist to the left is a comprehensive list of the requirements needed to meet their goals. For a description of each point see the LEED-ND reference guide, not included in this report.

One of the biggest areas in this checklist is Credit 1 of Smart location and linkage: preferred location. This community is in a great location, close to many amenities, as pointed out in the area inventory earlier in this report. It is on a bus route as well, creating easy access to downtown and the surrounding amenities, including several shopping areas. This site was chosen because it is one of the few undeveloped sites in the Nora Northside Community. It is surrounded by several other residential neighborhoods.

The most points are achieved by creating walkable streets. It is very easy to get around this neighborhood. The streets include sidewalks and bike lanes to separate all forms of traffic while getting around the site. There are also several ways for pedestrians to get around the site without having to be next vehicular traffics. The many open areas are all connected. There is also a pathway around the bay to connect all the amenities of the site.

There are also several points gained for creating an environment suitable to many different types of income and diversity among residents. Of the 300 units in the community, the size and price of each unit differs greatly in order to create this diverse environment. So many different sizes of houses were put in to attract lower income singles and families all the way up to upper middle class families with larger units.

Figure 52

This project would achieve around 70 points, making it a Gold Certification in LEED-ND.

Appendix

Topography

Image from Google Maps and overlaid with GIS topography layer.

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Rethinking the Residential Neighborhood

MATTHEW MCDERMOTT

STUDIO PROFESSORS: CORBIN, MOTLOCH MENTOR: SMITH

Abstract

This project is a design for a residential neighborhood that ...ks the tradition of the bedroom community. A ...borhood should be a place where people can enjoy ... they live. People should live in a place that encourages them to stay and enjoy the amenities that are right next door. A neighborhood should be a complete place to live.

There are townhouses and condominiums in this development. Around these buildings is open space that includes a purpose for where it is located. These housing types maximize density while being able to include the other amenities that need to be in a complete neighborhood. The site includes a community center for events and to accommodate community bonding. Trails and paths around the site connect all the amenities to the housing and open space. Walking access around the community is vital to the success of the project.

The open space and wooded areas are just as important to this design as the houses. These natural areas make up half of the site. They provide places to experience nature as well as get out of the density of the development. The escape into nature is immediate instead of a fifteen to thirty minute drive. Besides the woods, this project also creates a small wetland area that can be explored by way of the boardwalk and pathway that circles the bay. Stormwater management is critical to any development that is in the urban environment. The increased runoff is controlled through swales and retention areas that are incorporated into the project. These are an educational area as well as beneficial to the surrounding environment and water quality.

Introduction

This project is a design for a residential neighborhood in Northeast Indianapolis. Currently, the developer is focused on creating a high density, upper class bedroom community. The developer, like many other developers, is creating the most profit from the land. This is not the best way to design for a full, complete experience of the site for the residents. This new design considers the residents use of the site, what the site offers the residents, and what the site wants.

The residents of the site will be able to use and enjoy the land while being responsible. The high density is needed to cover the price of the land, but some of the land should remain natural to give the residents a place to utilize. Because of the high density, the land needs room to clean the increased stormwater and runoff. The needs of the residents are being addressed in cooperation with the needs of the environment. This will lessen the impact of the residents and the buildings on the site and the bay.

By incorporating the needs of all the parties involved, the design is able to create a more pleasurable place that respects the environment while offering a home to the new residents. The residents will be able to enjoy the community center, wetlands, park space, docks, overlooks, and all the design to offer instead of only a place to sleep, like many other developments currently in existence.

The design offers a full range of amenities and activities for the residents of the development as well as the community members. The site offers multiuse trails and a park area. Surrounding the bay are several overlooks and docks that allow for people to view the water and the habitat. The wetland will provide a unique habitat that will draw many varieties of wildlife to observe. The trail offers access all around the bay and the wooded areas. The trail will connect the site to the Monon trail and other parks in the community.

Before the site was sold out to be a c o n d o m i n i u m complex, it was a very low density residential area. The extreme change of density is a indicator that the development did not consider the natural environment in its scheme. The developer also put in many retaining walls in order to increase the density of the project. The picture to the left shows the site in its current state.

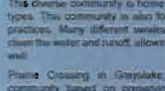
The Site

This is a panoramic view from the Northeast side of the site. As seen, there are buildings in place as well as a street, and utilities. The developer abandoned the property in 2008. The site has been vacant since then.

The front entrance to the property as it is currently. A prominent entry and well defined condos can be seen. The developer had a well developed sense of place planned but does not fit the context of Indianapolis or the immediate surroundings.

Precedent Studies

The community of High Point in Seattle, Washington is great example of what this project is hoping to accomplish. This community is made up of several different housing types and many parks to serve the community. Housing ranges from multi-family to duplexes to single family. There are several community garden areas that are used by many residents in the community. There are several pocket parks, where no resident has to walk more than three minutes to the nearest open space. This diverse community is home to many different social and family types. The community is also focused on stormwater management practices. Many different swales and retention ponds capture and clean the water and runoff, allowing the surrounding area to benefit as well.



Prairie Crossing in Grayslake, IL is a community based on preserving natural habitat while providing a place to live. This is an example of Transit Oriented Development, meaning that the community's location is based on its proximity to two rail lines. With multiuse trails all around the site, it is easy to get around the six hundred acre site. The community is focused on preserving the open space of the region and has over sixty percent of community as ...al or productive land.

Celebration, Florida is a community that was master planned by architects, landscape architects, urban planners, social planners, and other experts in community design. It was designed using five cornerstones: sense of community, sense of place, focus on technology, focus on health, and a focus on education. The open space spread around the community is very important so that community activities can take place almost anywhere in the community. There are many neighborhood events that all the residents are invited to through a community email system and website. There are plenty of outdoor areas for community members to gather and socialize as well as shop and eat.

Program

1.Goal: Design a residential neighborhood
- i.Provide multiple types of homes
  - oTownhomes, manors, and condos
  - o28 buildable acres
  - oRetired couples, Families, Couples, Singles
  - oOpen recreation areas
- ii.Residential amenities
  - oNeighborhood center for community
  - oPrivate pavilion/overlook
  - oAccess to bay

2.Goal: Protect existing vegetation and habitat
- i.Protect and improve existing vegetation
  - oDo not build in existing vegetation
  - oExtend vegetation into property
  - oLayout multiuse trail to connect site Throughout site, woods Bridge over bay entrance
- ii.Create wetland habitat
  - oCreate a wetlands area near water
  - oHave overlook for viewing, education

3.Goal: Create a sense of place
- i.Quarry History
  - oUse of stone throughout site
  - oUse of metal, reminiscent of equipment
- ii.Public areas to include landmark features
  - oDesign elements from the history of the site
  - oCommunity structures show geology, history

4.Goal: Create a sense of community
- i.Include the Nora North side Community(NCC)
  - oPromote community use of amenities
  - oBiking/walking trails in the south and east Connect to Monon and bike lanes
- ii.Encourage public to use bay and park
  - oSee 4.i
  - oInclude a public area to be used as a market/ open recreation
- iii.Must be open, inviting, and accessible
  - oGrand entrance with bus stop
  - oBike trails
  - oComplete streets walk-able, bike-able, drive-able

5.Goal: Follow LEED ND Standards
- i.LEED ND standards
  - oBecome an example for the NCC community
  - oAchieve enough credits for Gold certification
  - oThis site will become the example for sustainable design for NCC
- ii.Educate about what is being done
  - oEducational signage
  - oWetland/woods/river area becomes a place for field trips, education opportunity

Inventory

Regional

Red square –	Site
Red line –	Monon Trail
Blue Line-	White River
Green star –	Parks
Yellow star –	Nora
Orange dots –	Major Roads
Black stars –	Malls
Blue stars -	Schools

Site

Orange dots –	Keystone Ave
Yellow stars –	Entrance
Red –	Existing Structure
Green –	Wooded area
Orange stars –	Views
Light Blue –	Slopes
Dark Blue –	Points of interest
Green dots –	Planned trail expansion

Analysis

Strengths	Weaknesses	Opportunities	Threats
Private bay	Street noise	Prominent entry	Noise pollution
Prime location	Steep slopes (>5%)	Natural vegetation	Uninviting space
20 minute drive to Downtown	Retaining walls	Access to bay	No shade
Views	Cleared land	Wooded area	Flooding
Natural vegetation		Point of interest	Surrounding houses
Open space		Low land	

Concepts

Everyone as One

- Multiple housing types merge into each other
- Each part has own open space
- Most expensive properties on the water

- Neighborhood Center at entry
- Much more vegetated
- Smaller park space at peninsula

To Each Its Own

- Separation between housing types
- More pocket parks
- Large community space within high density

- Neighborhood center brought down
- Extended vegetation

Largely Open Space

- Northern part of site becomes a park
- Less housing types
- Pocket parks over large areas within community

- Pedestrian bridge between park and ...orhood center
- ...density
- ...econd community building on park side

Master Plan

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1" = 200' approx

1. **Entrance**
The entrance to the neighborhood remained in the same location, with easy access from Keystone Ave. The entry to the neighborhood is separate from the park in order to reduce the vehicle traffic on the residential side. Each entry is well vegetated with signs designating the name of the community and the park.

2. **Retention Pond**
This retention pond catches the water coming from north of the site. It also helps to create interest at the entrance. The pond is surrounded by prairie grasses to help slow the flow of water as well as clean the water.

3. **Swale**
The stormwater management system around the site is all linked together. The first line in the system is the small swales that run between each building to draw the water away from the structures as well as slow and filter it.

4. **Townhomes**
The townhome units range in size for families and singles alike. The different size units bring more diversity to the neighborhood as well as encourage socializing in the shared spaces and caring for the swales. There are fifty units here.

5. **Condos**
The roughly two hundred fifty units here range in size for all living situations and various income levels. The high density housing shares several open spaces for recreation and outside enjoyment.

6. **Retention Pond**
The second retention pond on site captures the overflow from the swales and the ditch along Keystone Ave. Overflow from here goes to the White River. Several condos look out over this pond that is an interest point off of the bay. The landmark structure here is an old conveyor belt and storage bean. The site was originally a quarry used for aggregate for the roads of Indianapolis.

7. **Open Space**
These open spaces allow for the residents of the condos to have a play to get outside, relax, socialize, and play. They are dotted with trees and a tree grove for shade and a place to sit. Each condo has access to open space or a view of water.

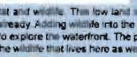
8. **Neighborhood Center**
The neighborhood center is a place for education and socializing. There are many events that take place here. It is not more than a five minute walk for any resident to get to the center. The center has several classes for residents and community members alike. There is also a dock for canoe and kayak rentals to use the bay.

9. **Community Garden**
The garden is open to any resident that would like to grow their own vegetables or flowers. A community space like this is becoming more of a standard addition to most new developments. It is a place to get to see and meet new neighbors.

10. **Wooded Area**
This wooded area is quite lower than the residential area and a flood plain for the White River. While the river does not often flood, this area is used for trails and escaping the built environment. The dense woodland hides the noise of the traffic as well as blocks the views of the buildings.

11. **Multiuse Bridge**
This bridge is a gateway from the White River in the bay and is also a way for the greenway to cross the water. The bridge is constructed of recycled metal objects that would have been used in the quarry.

12. **Wetland**
The wetland is a place for habitat and wildlife. This low land is just barely above the water level and is often wet already. Adding wildlife into the community creates more interest and more reason to explore the waterfront. The pathway around the site includes information about the wildlife that lives here as well as the vegetation that is growing.



13. **Aggregate Slope**
The slope was dealt with in two ways. On average, the slope drops sixteen feet over one hundred feet, or a 1:5 slope. Since the site was once a quarry, large aggregate is used. Small wildlife can burrow here and create a nest. The aggregate also helps to stop erosion.

14. **Grassed Slope**
Another way to stop erosion is prairie grasses. These grasses have extensive root systems the hold soil in place. The grasses also provide habitat and protection for wildlife that chose to live here.

15. **Park Pavilion**
This pavilion is a place for picnics and a place to park for people using the park. The open area can be used for anything from active recreation to a local farmers market. The park drops in elevation and becomes flood plain, which is why the area remained natural rather than built.

16. **Overlooks**
The small overlooks around the pathway provide places for users to sit and observe the bay. Again, they are built of recycled metal that is reminiscent of the quarry equipment that was once here.

17. **Lowland Prairie**
This prairie ranges from two to six feet above water level. It is made of grasses that are most accustomed to wet soils. This prairie connects the public park to the neighborhood center. The bridge here explains the history of the site.

18. **Multiuse Pathway**
This greenway connects the park with the trails on the southern part of the site. The pathway will continue under Keystone and along the White River. The path continues north along 78th street and Keystone and connects to the Monon Trail.

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